SEQUENCE LISTING

<110> McCARTHY, Sean A
FRASER, Christopher C
SHARP, John D
BARNES, Thomas S
KIRST, Susan J
MYERS, Paul S
WRIGHTON, Nicholas
GOODEARL, Andrew
HOLTZMAN, Douglas A
KHODADOUST, Mehran M

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Arg Cys Cys Val Arg Ala Leu Ser Ile Gln Arg Leu Trp Tyr Phe Trp
    50   55   60

Phe Leu Leu Met Met Gly Val Leu Phe Cys Cys Gly Ala Gly Phe Phe
65   70   75   80

Ile Arg Arg Arg Met Tyr Pro Pro Pro Leu Ile Glu Glu Pro Ala Phe
            85   90   95

Asn Val Ser Tyr Thr Arg Gln Pro Pro Asn Pro Gly Pro Gly Ala Gln
            100   105   110

Gln Pro Gly Pro Pro Tyr Tyr Thr Asp Pro Gly Gly Pro Gly Met Asn
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Pro Val Gly Asn Ser Met Ala Met Ala Phe Gln Val Pro Pro Asn Ser
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Val Leu Phe Cys Cys Gly Ala Gly Phe Phe Ile Arg Arg Arg Met Tyr
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Pro Pro Pro Leu Ile Glu Glu Pro Ala Phe Asn Val Ser Tyr Thr Arg
65   70   75   80

Gln Pro Pro Asn Pro Gly Pro Gly Ala Gln Gln Pro Gly Pro Pro Tyr
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Tyr Thr Asp Pro Gly Gly Pro Gly Met Asn Pro Val Gly Asn Ser Met
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Ala Met Ala Phe Gln Val Pro Pro Asn Ser Pro Gln Gly Ser Val Ala
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Pro Gly Pro Pro Tyr Tyr Thr Asp Pro Gly Gly Pro Gly Met Asn Pro
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Val Gly Asn Ser Met Ala Met Ala Phe Gln Val Pro Pro Asn Ser Pro
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Arg Cys Cys Val Arg Ala Leu Ser Ile Gln Arg Leu Trp Tyr Phe Trp
    50                  55                  60


Phe Leu Leu Met Met Gly Val Leu Phe Cys Cys Gly Ala Gly Phe Phe
65                  70                  75                  80


Ile Arg Arg Arg Met Tyr Pro Pro Pro Leu Ile Glu Glu Pro Thr Phe
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Gln Met Gly Pro Pro Tyr Tyr Thr Asp Pro Gly Gly Pro Gly Met Asn
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Pro Val Gly Asn Thr Met Ala Met Ala Phe Gln Val Gln Pro Asn Ser
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Leu Ser Ile Gln Arg Leu Trp Tyr Phe Trp Phe Leu Leu Met Met Gly
        35   40   45

Val Leu Phe Cys Cys Gly Ala Gly Phe Phe Ile Arg Arg Arg Met Tyr
    50   55   60

Pro Pro Pro Leu Ile Glu Glu Pro Thr Phe Asn Val Ser Tyr Thr Arg
65   70   75   80

Gln Pro Pro Asn Pro Ala Pro Gly Ala Gln Gln Met Gly Pro Pro Tyr
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Tyr Thr Asp Pro Gly Gly Pro Gly Met Asn Pro Val Gly Asn Thr Met
            100   105   110

Ala Met Ala Phe Gln Val Gln Pro Asn Ser Pro His Gly Gly Thr Thr
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gaattatatg aggttagcat tattaaaata tgttttttaat aaaaaaaaaa aaaaaaaaag    2160

ggcggccgc                                                             2169



<210>   22
<211>   1866
<212>   DNA
<213>   Homo sapiens

<400>   22
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gggagacaaa ttaactgccg taacttaggc ctttcgagta ttcctaagaa ttttcctgaa     180

agtacagttt ttctgtatct gactgggaat aatatatctt atataaatga aagtgaatta     240

acaggacttc attctcttgt agcattgtat ttggataatt ctaacattct gtatgtatat     300

ccaaaagcct ttgttcaatt gaggcatcta tattttctat ttctaaataa taatttcatc     360

aaacgcttag atcctggaat atttaaggga cttttaaatc ttcgtaattt atatttacag     420

tataatcagg tatcttttgt tccgagagga gtatttaatg atctagtttc agttcagtac     480

ttaaatctac aaaggaatcg cctcactgtc cttgggagtg gtacctttgt tggtatggtt     540

gctcttcgga tacttgattt atcaaacaat aacatttttga ggatatcaga atcaggcttt     600

caacatcttg aaaaccttgc ttgtttgtat ttaggaagta ataatttaac aaaagtacca     660

tcaaatgcct ttgaagtact aaaagtcttt agaagacttt ctttgtctca taatcctatt     720

gaagcaatac agcccttttgc atttaaagga cttgccaatc tggaataccct cctcctgaaa     780

aattcaagaa ttaggaatgt tactagggat gggtttagtg gaattaataa tcttaaacat     840
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ttgatcttaa gtcataatga tttagagaat ttaaattctg acacattcag tttgttaaag     900

aatttaattt accttaagtt agatagaaac agaataatta gcattgataa tgatacattt     960

gaaaatatgg gagcatcttt gaagatcctt aatctgtcat ttaataatct tacagccttg    1020

catccaaggg tccttaagcc gttgtcttca ttgattcatc ttcaggcaaa ttctaatcct    1080

tgggaatgta actgcaaact tttgggcctt cgagactggc tagcatcttc agccattact    1140

ctaaacatct attgtcagaa tcccccatcc atgcgtggca gagcattacg ttatattaac    1200

attacaaatt gtgttacatc ttcaataaat gtatccagag cttgggctgt tgtaaaatct    1260

cctcatattc atcacaagac tactgcgcta atgatggcct ggcataaagt aaccacaaat    1320

ggcagtcctc tggaaaatac tgagactgag aacattactt tctgggaacg aattcctact    1380

tcacctgctg gtagattttt tcaagagaat gcctttggta atccattaga gactacagca    1440

gtgttacctg tgcaaataca acttactact tctgttacct tgaacttgga aaaaaacagt    1500

gctctaccga atgatgctgc ttcaatgtca gggaaaacat ctctaatttg tacacaagaa    1560

gttgagaagt tgaatgaggc ttttgacatt ttgctagctt ttttcatctt agcttgtgtt    1620

ttaatcattt ttttgatcta caaagttgtt cagtttaaac aaaaactaaa ggcatcagaa    1680

aactcaaggg aaaatagact tgaatactac agcttttatc agtcagcaag gtataatgta    1740

actgcctcaa tttgtaacac ttccccaaat tctctagaaa gtcctggctt ggagcagatt    1800

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gcttta                                                              1866
```

<210> 23
<211> 622
<212> PRT
<213> Homo sapiens

<400> 23

```
Met Cys Gly Leu Gln Phe Ser Leu Pro Cys Leu Arg Leu Phe Leu Val
1               5                   10                  15


Val Thr Cys Tyr Leu Leu Leu Leu His Lys Glu Ile Leu Gly Cys
                20                  25                  30


Ser Ser Val Cys Gln Leu Cys Thr Gly Arg Gln Ile Asn Cys Arg Asn
        35                  40                  45


Leu Gly Leu Ser Ser Ile Pro Lys Asn Phe Pro Glu Ser Thr Val Phe
    50                  55                  60
```

```
Leu Tyr Leu Thr Gly Asn Asn Ile Ser Tyr Ile Asn Glu Ser Glu Leu
65               70            75            80


Thr Gly Leu His Ser Leu Val Ala Leu Tyr Leu Asp Asn Ser Asn Ile
            85            90            95


Leu Tyr Val Tyr Pro Lys Ala Phe Val Gln Leu Arg His Leu Tyr Phe
        100            105            110


Leu Phe Leu Asn Asn Asn Phe Ile Lys Arg Leu Asp Pro Gly Ile Phe
        115            120            125


Lys Gly Leu Leu Asn Leu Arg Asn Leu Tyr Leu Gln Tyr Asn Gln Val
    130            135            140


Ser Phe Val Pro Arg Gly Val Phe Asn Asp Leu Val Ser Val Gln Tyr
145            150            155            160


Leu Asn Leu Gln Arg Asn Arg Leu Thr Val Leu Gly Ser Gly Thr Phe
            165            170            175


Val Gly Met Val Ala Leu Arg Ile Leu Asp Leu Ser Asn Asn Asn Ile
        180            185            190


Leu Arg Ile Ser Glu Ser Gly Phe Gln His Leu Glu Asn Leu Ala Cys
        195            200            205


Leu Tyr Leu Gly Ser Asn Asn Leu Thr Lys Val Pro Ser Asn Ala Phe
    210            215            220


Glu Val Leu Lys Ser Leu Arg Arg Leu Ser Leu Ser His Asn Pro Ile
225            230            235            240


Glu Ala Ile Gln Pro Phe Ala Phe Lys Gly Leu Ala Asn Leu Glu Tyr
            245            250            255


Leu Leu Leu Lys Asn Ser Arg Ile Arg Asn Val Thr Arg Asp Gly Phe
        260            265            270


Ser Gly Ile Asn Asn Leu Lys His Leu Ile Leu Ser His Asn Asp Leu
    275            280            285


Glu Asn Leu Asn Ser Asp Thr Phe Ser Leu Leu Lys Asn Leu Ile Tyr
290            295            300
```

```
Leu Lys Leu Asp Arg Asn Arg Ile Ile Ser Ile Asp Asn Asp Thr Phe
305             310             315             320

Glu Asn Met Gly Ala Ser Leu Lys Ile Leu Asn Leu Ser Phe Asn Asn
            325             330             335

Leu Thr Ala Leu His Pro Arg Val Leu Lys Pro Leu Ser Ser Leu Ile
        340             345             350

His Leu Gln Ala Asn Ser Asn Pro Trp Glu Cys Asn Cys Lys Leu Leu
        355             360             365

Gly Leu Arg Asp Trp Leu Ala Ser Ser Ala Ile Thr Leu Asn Ile Tyr
    370             375             380

Cys Gln Asn Pro Pro Ser Met Arg Gly Arg Ala Leu Arg Tyr Ile Asn
385             390             395             400

Ile Thr Asn Cys Val Thr Ser Ser Ile Asn Val Ser Arg Ala Trp Ala
            405             410             415

Val Val Lys Ser Pro His Ile His His Lys Thr Thr Ala Leu Met Met
            420             425             430

Ala Trp His Lys Val Thr Thr Asn Gly Ser Pro Leu Glu Asn Thr Glu
        435             440             445

Thr Glu Asn Ile Thr Phe Trp Glu Arg Ile Pro Thr Ser Pro Ala Gly
    450             455             460

Arg Phe Phe Gln Glu Asn Ala Phe Gly Asn Pro Leu Glu Thr Thr Ala
465             470             475             480

Val Leu Pro Val Gln Ile Gln Leu Thr Thr Ser Val Thr Leu Asn Leu
            485             490             495

Glu Lys Asn Ser Ala Leu Pro Asn Asp Ala Ala Ser Met Ser Gly Lys
            500             505             510

Thr Ser Leu Ile Cys Thr Gln Glu Val Glu Lys Leu Asn Glu Ala Phe
        515             520             525

Asp Ile Leu Leu Ala Phe Phe Ile Leu Ala Cys Val Leu Ile Ile Phe
```

Leu Ile Tyr Lys Val Val Gln Phe Lys Gln Lys Leu Lys Ala Ser Glu
545   550   555   560

Asn Ser Arg Glu Asn Arg Leu Glu Tyr Tyr Ser Phe Tyr Gln Ser Ala
               565   570   575

Arg Tyr Asn Val Thr Ala Ser Ile Cys Asn Thr Ser Pro Asn Ser Leu
               580   585   590

Glu Ser Pro Gly Leu Glu Gln Ile Arg Leu His Lys Gln Ile Val Pro
          595   600   605

Glu Asn Glu Ala Gln Val Ile Leu Phe Glu His Ser Ala Leu
     610   615   620

<210>   24
<211>   31
<212>   PRT
<213>   Homo sapiens

<400>   24

Met Cys Gly Leu Gln Phe Ser Leu Pro Cys Leu Arg Leu Phe Leu Val
1   5   10   15

Val Thr Cys Tyr Leu Leu Leu Leu His Lys Glu Ile Leu Gly
          20   25   30

<210>   25
<211>   591
<212>   PRT
<213>   Homo sapiens

<400>   25

Cys Ser Ser Val Cys Gln Leu Cys Thr Gly Arg Gln Ile Asn Cys Arg
1   5   10   15

Asn Leu Gly Leu Ser Ser Ile Pro Lys Asn Phe Pro Glu Ser Thr Val
          20   25   30

Phe Leu Tyr Leu Thr Gly Asn Asn Ile Ser Tyr Ile Asn Glu Ser Glu
          35   40   45

Leu Thr Gly Leu His Ser Leu Val Ala Leu Tyr Leu Asp Asn Ser Asn
     50   55   60

Ile Leu Tyr Val Tyr Pro Lys Ala Phe Val Gln Leu Arg His Leu Tyr
65   70   75   80

Phe Leu Phe Leu Asn Asn Asn Phe Ile Lys Arg Leu Asp Pro Gly Ile
            85   90   95

Phe Lys Gly Leu Leu Asn Leu Arg Asn Leu Tyr Leu Gln Tyr Asn Gln
            100   105   110

Val Ser Phe Val Pro Arg Gly Val Phe Asn Asp Leu Val Ser Val Gln
            115   120   125

Tyr Leu Asn Leu Gln Arg Asn Arg Leu Thr Val Leu Gly Ser Gly Thr
    130   135   140

Phe Val Gly Met Val Ala Leu Arg Ile Leu Asp Leu Ser Asn Asn Asn
145   150   155   160

Ile Leu Arg Ile Ser Glu Ser Gly Phe Gln His Leu Glu Asn Leu Ala
                165   170   175

Cys Leu Tyr Leu Gly Ser Asn Asn Leu Thr Lys Val Pro Ser Asn Ala
            180   185   190

Phe Glu Val Leu Lys Ser Leu Arg Arg Leu Ser Leu Ser His Asn Pro
            195   200   205

Ile Glu Ala Ile Gln Pro Phe Ala Phe Lys Gly Leu Ala Asn Leu Glu
    210   215   220

Tyr Leu Leu Leu Lys Asn Ser Arg Ile Arg Asn Val Thr Arg Asp Gly
225   230   235   240

Phe Ser Gly Ile Asn Asn Leu Lys His Leu Ile Leu Ser His Asn Asp
            245   250   255

Leu Glu Asn Leu Asn Ser Asp Thr Phe Ser Leu Leu Lys Asn Leu Ile
            260   265   270

Tyr Leu Lys Leu Asp Arg Asn Arg Ile Ile Ser Ile Asp Asn Asp Thr
    275   280   285

Phe Glu Asn Met Gly Ala Ser Leu Lys Ile Leu Asn Leu Ser Phe Asn

290   295   300

Asn Leu Thr Ala Leu His Pro Arg Val Leu Lys Pro Leu Ser Ser Leu
305   310   315   320

Ile His Leu Gln Ala Asn Ser Asn Pro Trp Glu Cys Asn Cys Lys Leu
                325   330   335

Leu Gly Leu Arg Asp Trp Leu Ala Ser Ser Ala Ile Thr Leu Asn Ile
                340   345   350

Tyr Cys Gln Asn Pro Pro Ser Met Arg Gly Arg Ala Leu Arg Tyr Ile
                355   360   365

Asn Ile Thr Asn Cys Val Thr Ser Ser Ile Asn Val Ser Arg Ala Trp
                370   375   380

Ala Val Val Lys Ser Pro His Ile His His Lys Thr Thr Ala Leu Met
385   390   395   400

Met Ala Trp His Lys Val Thr Thr Asn Gly Ser Pro Leu Glu Asn Thr
                405   410   415

Glu Thr Glu Asn Ile Thr Phe Trp Glu Arg Ile Pro Thr Ser Pro Ala
                420   425   430

Gly Arg Phe Phe Gln Glu Asn Ala Phe Gly Asn Pro Leu Glu Thr Thr
                435   440   445

Ala Val Leu Pro Val Gln Ile Gln Leu Thr Thr Ser Val Thr Leu Asn
450   455   460

Leu Glu Lys Asn Ser Ala Leu Pro Asn Asp Ala Ala Ser Met Ser Gly
465   470   475   480

Lys Thr Ser Leu Ile Cys Thr Gln Glu Val Glu Lys Leu Asn Glu Ala
                485   490   495

Phe Asp Ile Leu Leu Ala Phe Phe Ile Leu Ala Cys Val Leu Ile Ile
                500   505   510

Phe Leu Ile Tyr Lys Val Val Gln Phe Lys Gln Lys Leu Lys Ala Ser
                515   520   525

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Glu Asn Ser Arg Glu Asn Arg Leu Glu Tyr Tyr Ser Phe Tyr Gln Ser
530   535   540

Ala Arg Tyr Asn Val Thr Ala Ser Ile Cys Asn Thr Ser Pro Asn Ser
545   550   555   560

Leu Glu Ser Pro Gly Leu Glu Gln Ile Arg Leu His Lys Gln Ile Val
565   570   575

Pro Glu Asn Glu Ala Gln Val Ile Leu Phe Glu His Ser Ala Leu
580   585   590

<210> 26
<211> 498
<212> PRT
<213> Homo sapiens

<400> 26

Cys Ser Ser Val Cys Gln Leu Cys Thr Gly Arg Gln Ile Asn Cys Arg
1   5   10   15

Asn Leu Gly Leu Ser Ser Ile Pro Lys Asn Phe Pro Glu Ser Thr Val
20   25   30

Phe Leu Tyr Leu Thr Gly Asn Asn Ile Ser Tyr Ile Asn Glu Ser Glu
35   40   45

Leu Thr Gly Leu His Ser Leu Val Ala Leu Tyr Leu Asp Asn Ser Asn
50   55   60

Ile Leu Tyr Val Tyr Pro Lys Ala Phe Val Gln Leu Arg His Leu Tyr
65   70   75   80

Phe Leu Phe Leu Asn Asn Asn Phe Ile Lys Arg Leu Asp Pro Gly Ile
85   90   95

Phe Lys Gly Leu Leu Asn Leu Arg Asn Leu Tyr Leu Gln Tyr Asn Gln
100   105   110

Val Ser Phe Val Pro Arg Gly Val Phe Asn Asp Leu Val Ser Val Gln
115   120   125

Tyr Leu Asn Leu Gln Arg Asn Arg Leu Thr Val Leu Gly Ser Gly Thr
130   135   140

```
Phe Val Gly Met Val Ala Leu Arg Ile Leu Asp Leu Ser Asn Asn Asn
145             150             155             160

Ile Leu Arg Ile Ser Glu Ser Gly Phe Gln His Leu Glu Asn Leu Ala
            165             170             175

Cys Leu Tyr Leu Gly Ser Asn Asn Leu Thr Lys Val Pro Ser Asn Ala
            180             185             190

Phe Glu Val Leu Lys Ser Leu Arg Arg Leu Ser Leu Ser His Asn Pro
        195             200             205

Ile Glu Ala Ile Gln Pro Phe Ala Phe Lys Gly Leu Ala Asn Leu Glu
    210             215             220

Tyr Leu Leu Leu Lys Asn Ser Arg Ile Arg Asn Val Thr Arg Asp Gly
225             230             235             240

Phe Ser Gly Ile Asn Asn Leu Lys His Leu Ile Leu Ser His Asn Asp
            245             250             255

Leu Glu Asn Leu Asn Ser Asp Thr Phe Ser Leu Leu Lys Asn Leu Ile
            260             265             270

Tyr Leu Lys Leu Asp Arg Asn Arg Ile Ile Ser Ile Asp Asn Asp Thr
        275             280             285

Phe Glu Asn Met Gly Ala Ser Leu Lys Ile Leu Asn Leu Ser Phe Asn
    290             295             300

Asn Leu Thr Ala Leu His Pro Arg Val Leu Lys Pro Leu Ser Ser Leu
305             310             315             320

Ile His Leu Gln Ala Asn Ser Asn Pro Trp Glu Cys Asn Cys Lys Leu
            325             330             335

Leu Gly Leu Arg Asp Trp Leu Ala Ser Ser Ala Ile Thr Leu Asn Ile
            340             345             350

Tyr Cys Gln Asn Pro Pro Ser Met Arg Gly Arg Ala Leu Arg Tyr Ile
        355             360             365

Asn Ile Thr Asn Cys Val Thr Ser Ser Ile Asn Val Ser Arg Ala Trp
        370             375             380
```

```
Ala Val Val Lys Ser Pro His Ile His His Lys Thr Thr Ala Leu Met
385             390             395                 400


Met Ala Trp His Lys Val Thr Thr Asn Gly Ser Pro Leu Glu Asn Thr
                405             410             415


Glu Thr Glu Asn Ile Thr Phe Trp Glu Arg Ile Pro Thr Ser Pro Ala
            420             425             430


Gly Arg Phe Phe Gln Glu Asn Ala Phe Gly Asn Pro Leu Glu Thr Thr
            435             440             445


Ala Val Leu Pro Val Gln Ile Gln Leu Thr Thr Ser Val Thr Leu Asn
    450             455             460


Leu Glu Lys Asn Ser Ala Leu Pro Asn Asp Ala Ala Ser Met Ser Gly
465             470             475                 480


Lys Thr Ser Leu Ile Cys Thr Gln Glu Val Glu Lys Leu Asn Glu Ala
                485             490             495


Phe Asp


<210>   27
<211>   18
<212>   PRT
<213>   Homo sapiens

<400>   27

Ile Leu Leu Ala Phe Phe Ile Leu Ala Cys Val Leu Ile Ile Phe Leu
1               5               10              15


Ile Tyr


<210>   28
<211>   75
<212>   PRT
<213>   Homo sapiens

<400>   28

Lys Val Val Gln Phe Lys Gln Lys Leu Lys Ala Ser Glu Asn Ser Arg
1               5               10              15
```

Glu Asn Arg Leu Glu Tyr Tyr Ser Phe Tyr Gln Ser Ala Arg Tyr Asn
          20   25   30

Val Thr Ala Ser Ile Cys Asn Thr Ser Pro Asn Ser Leu Glu Ser Pro
          35   40   45

Gly Leu Glu Gln Ile Arg Leu His Lys Gln Ile Val Pro Glu Asn Glu
          50   55   60

Ala Gln Val Ile Leu Phe Glu His Ser Ala Leu
65   70   75

<210> 29
<211> 1529
<212> PRT
<213> Homo sapiens

<400> 29

Met Arg Gly Val Gly Trp Gln Met Leu Ser Leu Ser Leu Gly Leu Val
1   5   10   15

Leu Ala Ile Leu Asn Lys Val Ala Pro Gln Ala Cys Pro Ala Gln Cys
          20   25   30

Ser Cys Ser Gly Ser Thr Val Asp Cys His Gly Leu Ala Leu Arg Ser
          35   40   45

Val Pro Arg Asn Ile Pro Arg Asn Thr Glu Arg Leu Asp Leu Asn Gly
          50   55   60

Asn Asn Ile Thr Arg Ile Thr Lys Thr Asp Phe Ala Gly Leu Arg His
65   70   75   80

Leu Arg Val Leu Gln Leu Met Glu Asn Lys Ile Ser Thr Ile Glu Arg
               85   90   95

Gly Ala Phe Gln Asp Leu Lys Glu Leu Glu Arg Leu Arg Leu Asn Arg
          100   105   110

Asn His Leu Gln Leu Phe Pro Glu Leu Leu Phe Leu Gly Thr Ala Lys
          115   120   125

Leu Tyr Arg Leu Asp Leu Ser Glu Asn Gln Ile Gln Ala Ile Pro Arg
          130   135   140

Lys Ala Phe Arg Gly Ala Val Asp Ile Lys Asn Leu Gln Leu Asp Tyr
145   150   155   160

Asn Gln Ile Ser Cys Ile Glu Asp Gly Ala Phe Arg Ala Leu Arg Asp
                165   170   175

Leu Glu Val Leu Thr Leu Asn Asn Asn Asn Ile Thr Arg Leu Ser Val
            180   185   190

Ala Ser Phe Asn His Met Pro Lys Leu Arg Thr Phe Arg Leu His Ser
            195   200   205

Asn Asn Leu Tyr Cys Asp Cys His Leu Ala Trp Leu Ser Asp Trp Leu
210   215   220

Arg Gln Arg Pro Arg Val Gly Leu Tyr Thr Gln Cys Met Gly Pro Ser
225   230   235   240

His Leu Arg Gly His Asn Val Ala Glu Val Gln Lys Arg Glu Phe Val
            245   250   255

Cys Ser Gly His Gln Ser Phe Met Ala Pro Ser Cys Ser Val Leu His
            260   265   270

Cys Pro Ala Ala Cys Thr Cys Ser Asn Asn Ile Val Asp Cys Arg Gly
            275   280   285

Lys Gly Leu Thr Glu Ile Pro Thr Asn Leu Pro Glu Thr Ile Thr Glu
    290   295   300

Ile Arg Leu Glu Gln Asn Thr Ile Lys Val Ile Pro Pro Gly Ala Phe
305   310   315   320

Ser Pro Tyr Lys Lys Leu Arg Arg Ile Asp Leu Ser Asn Asn Gln Ile
                325   330   335

Ser Glu Leu Ala Pro Asp Ala Phe Gln Gly Leu Arg Ser Leu Asn Ser
            340   345   350

Leu Val Leu Tyr Gly Asn Lys Ile Thr Glu Leu Pro Lys Ser Leu Phe
            355   360   365

Glu Gly Leu Phe Ser Leu Gln Leu Leu Leu Leu Asn Ala Asn Lys Ile
    370   375   380

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Asn Cys Leu Arg Val Asp Ala Phe Gln Asp Leu His Asn Leu Asn Leu
385             390             395                 400


Leu Ser Leu Tyr Asp Asn Lys Leu Gln Thr Ile Ala Lys Gly Thr Phe
            405             410             415


Ser Pro Leu Arg Ala Ile Gln Thr Met His Leu Ala Gln Asn Pro Phe
            420             425             430


Ile Cys Asp Cys His Leu Lys Trp Leu Ala Asp Tyr Leu His Thr Asn
            435             440             445
                    ·


Pro Ile Glu Thr Ser Gly Ala Arg Cys Thr Ser Pro Arg Arg Leu Ala
    450             455             460


Asn Lys Arg Ile Gly Gln Ile Lys Ser Lys Lys Phe Arg Cys Ser Ala
465             470             475             480


Lys Glu Gln Tyr Phe Ile Pro Gly Thr Glu Asp Tyr Arg Ser Lys Leu
            485             490             495


Ser Gly Asp Cys Phe Ala Asp Leu Ala Cys Pro Glu Lys Cys Arg Cys
            500             505             510


Glu Gly Thr Thr Val Asp Cys Ser Asn Gln Lys Leu Asn Lys Ile Pro
            515             520             525


Glu His Ile Pro Gln Tyr Thr Ala Glu Leu Arg Leu Asn Asn Asn Glu
    530             535             540


Phe Thr Val Leu Glu Ala Thr Gly Ile Phe Lys Lys Leu Pro Gln Leu
545             550             555             560


Arg Lys Ile Asn Phe Ser Asn Asn Lys Ile Thr Asp Ile Glu Glu Gly
            565             570             575


Ala Phe Glu Gly Ala Ser Gly Val Asn Glu Ile Leu Leu Thr Ser Asn
            580             585             590


Arg Leu Glu Asn Val Gln His Lys Met Phe Lys Gly Leu Glu Ser Leu
    595             600             605


Lys Thr Leu Met Leu Arg Ser Asn Arg Ile Thr Cys Val Gly Asn Asp
    610             615             620
```

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Ser Phe Ile Gly Leu Ser Ser Val Arg Leu Leu Ser Leu Tyr Asp Asn
625   630   635   640

Gln Ile Thr Thr Val Ala Pro Gly Ala Phe Asp Thr Leu His Ser Leu
              645   650   655

Ser Thr Leu Asn Leu Leu Ala Asn Pro Phe Asn Cys Asn Cys Tyr Leu
              660   665   670

Ala Trp Leu Gly Glu Trp Leu Arg Lys Lys Arg Ile Val Thr Gly Asn
              675   680   685

Pro Arg Cys Gln Lys Pro Tyr Phe Leu Lys Glu Ile Pro Ile Gln Asp
      690   695   700

Val Ala Ile Gln Asp Phe Thr Cys Asp Asp Gly Asn Asp Asp Asn Ser
705   710   715   720

Cys Ser Pro Leu Ser Arg Cys Pro Thr Glu Cys Thr Cys Leu Asp Thr
              725   730   735

Val Val Arg Cys Ser Asn Lys Gly Leu Lys Val Leu Pro Lys Gly Ile
              740   745   750

Pro Arg Asp Val Thr Glu Leu Tyr Leu Asp Gly Asn Gln Phe Thr Leu
      755   760   765

Val Pro Lys Glu Leu Ser Asn Tyr Lys His Leu Thr Leu Ile Asp Leu
      770   775   780

Ser Asn Asn Arg Ile Ser Thr Leu Ser Asn Gln Ser Phe Ser Asn Met
785   790   795   800

Thr Gln Leu Leu Thr Leu Ile Leu Ser Tyr Asn Arg Leu Arg Cys Ile
              805   810   815

Pro Pro Arg Thr Phe Asp Gly Leu Lys Ser Leu Arg Leu Leu Ser Leu
      820   825   830

His Gly Asn Asp Ile Ser Val Val Pro Glu Gly Ala Phe Asn Asp Leu
      835   840   845

Ser Ala Leu Ser His Leu Ala Ile Gly Ala Asn Pro Leu Tyr Cys Asp

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Cys Asn Met Gln Trp Leu Ser Asp Trp Val Lys Ser Glu Tyr Lys Glu
865   870   875   880

Pro Gly Ile Ala Arg Cys Ala Gly Pro Gly Glu Met Ala Asp Lys Leu
                885   890   895

Leu Leu Thr Thr Pro Ser Lys Lys Phe Thr Cys Gln Gly Pro Val Asp
                900   905   910

Val Asn Ile Leu Ala Lys Cys Asn Pro Cys Leu Ser Asn Pro Cys Lys
            915   920   925

Asn Asp Gly Thr Cys Asn Ser Asp Pro Val Asp Phe Tyr Arg Cys Thr
    930   935   940

Cys Pro Tyr Gly Phe Lys Gly Gln Asp Cys Asp Val Pro Ile His Ala
945   950   955   960

Cys Ile Ser Asn Pro Cys Lys His Gly Gly Thr Cys His Leu Lys Glu
            965   970   975

Gly Glu Glu Asp Gly Phe Trp Cys Ile Cys Ala Asp Gly Phe Glu Gly
            980   985   990

Glu Asn Cys Glu Val Asn Val Asp Asp Cys Glu Asp Asn Asp Cys Glu
    995   1000   1005

Asn Asn Ser Thr Cys Val Asp Gly Ile Asn Asn Tyr Thr Cys Leu
    1010   1015   1020

Cys Pro Pro Glu Tyr Thr Gly Glu Leu Cys Glu Glu Lys Leu Asp
    1025   1030   1035

Phe Cys Ala Gln Asp Leu Asn Pro Cys Gln His Asp Ser Lys Cys
    1040   1045   1050

Ile Leu Thr Pro Lys Gly Phe Lys Cys Asp Cys Thr Pro Gly Tyr
    1055   1060   1065

Val Gly Glu His Cys Asp Ile Asp Phe Asp Asp Cys Gln Asp Asn
    1070   1075   1080

```
Lys Cys Lys Asn Gly Ala His  Cys Thr Asp Ala Val  Asn Gly Tyr
    1085                1090                1095


Thr Cys Ile Cys Pro Glu Gly  Tyr Ser Gly Leu Phe  Cys Glu Phe
    1100                1105                1110


Ser Pro Pro Met Val Leu Pro  Arg Thr Ser Pro Cys  Asp Asn Phe
    1115                1120                1125


Asp Cys Gln Asn Gly Ala Gln  Cys Ile Val Arg Ile  Asn Glu Pro
    1130                1135                1140


Ile Cys Gln Cys Leu Pro Gly  Tyr Gln Gly Glu Lys  Cys Glu Lys
    1145                1150                1155


Leu Val Ser Val Asn Phe Ile  Asn Lys Glu Ser Tyr  Leu Gln Ile
    1160                1165                1170


Pro Ser Ala Lys Val Arg Pro  Gln Thr Asn Ile Thr  Leu Gln Ile
    1175                1180                1185


Ala Thr Asp Glu Asp Ser Gly  Ile Leu Leu Tyr Lys  Gly Asp Lys
    1190                1195                1200


Asp His Ile Ala Val Glu Leu  Tyr Arg Gly Arg Val  Arg Ala Ser
    1205                1210                1215


Tyr Asp Thr Gly Ser His Pro  Ala Ser Ala Ile Tyr  Ser Val Glu
    1220                1225                1230


Thr Ile Asn Asp Gly Asn Phe  His Ile Val Glu Leu  Leu Ala Leu
    1235                1240                1245


Asp Gln Ser Leu Ser Leu Ser  Val Asp Gly Gly Asn  Pro Lys Ile
    1250                1255                1260


Ile Thr Asn Leu Ser Lys Gln  Ser Thr Leu Asn Phe  Asp Ser Pro
    1265                1270                1275


Leu Tyr Val Gly Gly Met Pro  Gly Lys Ser Asn Val  Ala Ser Leu
    1280                1285                1290


Arg Gln Ala Pro Gly Gln Asn  Gly Thr Ser Phe His  Gly Cys Ile
    1295                1300                1305
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Arg Asn  Leu Tyr Ile Asn Ser  Glu Leu Gln Asp Phe  Gln Lys Val
    1310                 1315                 1320

Pro Met  Gln Thr Gly Ile Leu  Pro Gly Cys Glu Pro  Cys His Lys
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Lys Val  Cys Ala His Gly Thr  Cys Gln Pro Ser Ser  Gln Ala Gly
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Phe Thr  Cys Glu Cys Gln Glu  Gly Trp Met Gly Pro  Leu Cys Asp
    1355                 1360                 1365

Gln Arg  Thr Asn Asp Pro Cys  Leu Gly Asn Lys Cys  Val His Gly
    1370                 1375                 1380

Thr Cys  Leu Pro Ile Asn Ala  Phe Ser Tyr Ser Cys  Lys Cys Leu
    1385                 1390                 1395

Glu Gly  His Gly Gly Val Leu  Cys Asp Glu Glu Glu  Asp Leu Phe
    1400                 1405                 1410

Asn Pro  Cys Gln Ala Ile Lys  Cys Lys His Gly Lys  Cys Arg Leu
    1415                 1420                 1425

Ser Gly  Leu Gly Gln Pro Tyr  Cys Glu Cys Ser Ser  Gly Tyr Thr
    1430                 1435                 1440

Gly Asp  Ser Cys Asp Arg Glu  Ile Ser Cys Arg Gly  Glu Arg Ile
    1445                 1450                 1455

Arg Asp  Tyr Tyr Gln Lys Gln  Gln Gly Tyr Ala Ala  Cys Gln Thr
    1460                 1465                 1470

Thr Lys  Lys Val Ser Arg Leu  Glu Cys Arg Gly Gly  Cys Ala Gly
    1475                 1480                 1485

Gly Gln  Cys Cys Gly Pro Leu  Arg Ser Lys Arg Arg  Lys Tyr Ser
    1490                 1495                 1500

Phe Glu  Cys Thr Asp Gly Ser  Ser Phe Val Asp Glu  Val Glu Lys
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Val Val  Lys Cys Gly Cys Thr  Arg Cys Val Ser
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<212> DNA
<213> Homo sapiens

<400> 30

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ggcctcagac actgcgcggt tccctcggag cagcaagcta aagaaagccc ccagtgccgg     180

cgaggaagga ggcggcgggg aaagatgcgc ggcgttggct ggcagatgct gtccctgtcg     240

ctggggttag tgctggcgat cctgaacaag gtggcaccgc aggcgtgccc ggcgcagtgc     300

tcttgctcgg gcagcacagt ggactgtcac gggctggcgc tgcgcagcgt gcccaggaat     360

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accattgaaa gaggagcatt ccaggatctt aaagaactag agagactgcg tttaaacaga     540

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- 30 -

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cacttaaagg aaggagaaga agatggattc tggtgtattt gtgctgatgg atttgaagga   3180

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- 33 -

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- 34 -

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<210> 32
<211> 1530
<212> DNA
<213> Homo sapiens

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ccgccgcccc cacgcaaccc cctggacggc tcagtgctcc tgcgcaacgc agtgcaggcg   360

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- 35 -

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<210> 33
<211> 510
<212> PRT
<213> Homo sapiens

<400> 33

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                20   25   30

Glu Leu Glu Thr Ser Asp Val Val Thr Val Val Leu Gly Gln Asp Ala
            35   40   45

Lys Leu Pro Cys Phe Tyr Arg Gly Asp Ser Gly Glu Gln Val Gly Gln
    50   55   60

Val Ala Trp Ala Arg Val Asp Ala Gly Glu Gly Ala Gln Glu Leu Ala
65   70   75   80

Leu Leu His Ser Lys Tyr Gly Leu His Val Ser Pro Ala Tyr Glu Gly
                85   90   95

Arg Val Glu Gln Pro Pro Pro Arg Asn Pro Leu Asp Gly Ser Val
            100   105   110

Leu Leu Arg Asn Ala Val Gln Ala Asp Glu Gly Glu Tyr Glu Cys Arg
        115   120   125

Val Ser Thr Phe Pro Ala Gly Ser Phe Gln Ala Arg Leu Arg Leu Arg
    130   135   140

Val Leu Val Pro Pro Leu Pro Ser Leu Asn Pro Gly Pro Ala Leu Glu
145   150   155   160

Glu Gly Gln Gly Leu Thr Leu Ala Ala Ser Cys Thr Ala Glu Gly Ser
                165   170   175

Pro Ala Pro Ser Val Thr Trp Asp Thr Glu Val Lys Gly Thr Thr Ser
            180   185   190

Ser Arg Ser Phe Lys His Ser Arg Ser Ala Ala Val Thr Ser Glu Phe

- 36 -

His Leu Val Pro Ser Arg Ser Met Asn Gly Gln Pro Leu Thr Cys Val
    210   215   220

Val Ser His Pro Gly Leu Leu Gln Asp Gln Arg Ile Thr His Ile Leu
225   230   235   240

His Val Ser Phe Leu Ala Glu Ala Ser Val Arg Gly Leu Glu Asp Gln
            245   250   255

Asn Leu Trp His Ile Gly Arg Glu Gly Ala Met Leu Lys Cys Leu Ser
            260   265   270

Glu Gly Gln Pro Pro Pro Ser Tyr Asn Trp Thr Arg Leu Asp Gly Pro
        275   280   285

Leu Pro Ser Gly Val Arg Val Asp Gly Asp Thr Leu Gly Phe Pro Pro
    290   295   300

Leu Thr Thr Glu His Ser Gly Ile Tyr Val Cys His Val Ser Asn Glu
305   310   315   320

Phe Ser Ser Arg Asp Ser Gln Val Thr Val Asp Val Leu Asp Pro Gln
            325   330   335

Glu Asp Ser Gly Lys Gln Val Asp Leu Val Ser Ala Ser Val Val Val
            340   345   350

Val Gly Val Ile Ala Ala Leu Leu Phe Cys Leu Leu Val Val Val Val
        355   360   365

Val Leu Met Ser Arg Tyr His Arg Arg Lys Ala Gln Gln Met Thr Gln
    370   375   380

Lys Tyr Glu Glu Glu Leu Thr Leu Thr Arg Glu Asn Ser Ile Arg Arg
385   390   395   400

Leu His Ser His His Thr Asp Pro Arg Ser Gln Pro Glu Glu Ser Val
            405   410   415

Gly Leu Arg Ala Glu Gly His Pro Asp Ser Leu Lys Asp Asn Ser Ser
            420   425   430

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Cys Ser Val Met Ser Glu Glu Pro Glu Gly Arg Ser Tyr Ser Thr Leu
        435             440             445

Thr Thr Val Arg Glu Ile Glu Thr Gln Thr Glu Leu Leu Ser Pro Gly
        450             455             460

Ser Gly Arg Ala Glu Glu Glu Glu Asp Gln Asp Glu Gly Ile Lys Gln
465             470             475             480

Ala Met Asn His Phe Val Gln Glu Asn Gly Thr Leu Arg Ala Lys Pro
            485             490             495

Thr Gly Asn Gly Ile Tyr Ile Asn Gly Arg Gly His Leu Val
            500             505             510


<210>  34
<211>  31
<212>  PRT
<213>  Homo sapiens

<400>  34

Met Pro Leu Ser Leu Gly Ala Glu Met Trp Gly Pro Glu Ala Trp Leu
1               5               10              15

Leu Leu Leu Leu Leu Leu Ala Ser Phe Thr Gly Arg Cys Pro Ala
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<210>  35
<211>  479
<212>  PRT
<213>  Homo sapiens

<400>  35

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1               5               10              15

Ala Lys Leu Pro Cys Phe Tyr Arg Gly Asp Ser Gly Glu Gln Val Gly
            20              25              30

Gln Val Ala Trp Ala Arg Val Asp Ala Gly Glu Gly Ala Gln Glu Leu
        35              40              45

Ala Leu Leu His Ser Lys Tyr Gly Leu His Val Ser Pro Ala Tyr Glu
    50              55              60

Gly Arg Val Glu Gln Pro Pro Pro Arg Asn Pro Leu Asp Gly Ser
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Val Leu Leu Arg Asn Ala Val Gln Ala Asp Glu Gly Glu Tyr Glu Cys
            85   90   95

Arg Val Ser Thr Phe Pro Ala Gly Ser Phe Gln Ala Arg Leu Arg Leu
            100   105   110

Arg Val Leu Val Pro Pro Leu Pro Ser Leu Asn Pro Gly Pro Ala Leu
        115   120   125

Glu Glu Gly Gln Gly Leu Thr Leu Ala Ala Ser Cys Thr Ala Glu Gly
    130   135   140

Ser Pro Ala Pro Ser Val Thr Trp Asp Thr Glu Val Lys Gly Thr Thr
145   150   155   160

Ser Ser Arg Ser Phe Lys His Ser Arg Ser Ala Ala Val Thr Ser Glu
            165   170   175

Phe His Leu Val Pro Ser Arg Ser Met Asn Gly Gln Pro Leu Thr Cys
            180   185   190

Val Val Ser His Pro Gly Leu Leu Gln Asp Gln Arg Ile Thr His Ile
        195   200   205

Leu His Val Ser Phe Leu Ala Glu Ala Ser Val Arg Gly Leu Glu Asp
    210   215   220

Gln Asn Leu Trp His Ile Gly Arg Glu Gly Ala Met Leu Lys Cys Leu
225   230   235   240

Ser Glu Gly Gln Pro Pro Pro Ser Tyr Asn Trp Thr Arg Leu Asp Gly
            245   250   255

Pro Leu Pro Ser Gly Val Arg Val Asp Gly Asp Thr Leu Gly Phe Pro
            260   265   270

Pro Leu Thr Thr Glu His Ser Gly Ile Tyr Val Cys His Val Ser Asn
        275   280   285

Glu Phe Ser Ser Arg Asp Ser Gln Val Thr Val Asp Val Leu Asp Pro
    290   295   300

Gln Glu Asp Ser Gly Lys Gln Val Asp Leu Val Ser Ala Ser Val Val
305   310   315   320

Val Val Gly Val Ile Ala Ala Leu Leu Phe Cys Leu Leu Val Val Val
                325   330   335

Val Val Leu Met Ser Arg Tyr His Arg Arg Lys Ala Gln Gln Met Thr
            340   345   350

Gln Lys Tyr Glu Glu Glu Leu Thr Leu Thr Arg Glu Asn Ser Ile Arg
            355   360   365

Arg Leu His Ser His His Thr Asp Pro Arg Ser Gln Pro Glu Glu Ser
    370   375   380

Val Gly Leu Arg Ala Glu Gly His Pro Asp Ser Leu Lys Asp Asn Ser
385   390   395   400

Ser Cys Ser Val Met Ser Glu Glu Pro Glu Gly Arg Ser Tyr Ser Thr
            405   410   415

Leu Thr Thr Val Arg Glu Ile Glu Thr Gln Thr Glu Leu Leu Ser Pro
            420   425   430

Gly Ser Gly Arg Ala Glu Glu Glu Glu Asp Gln Asp Glu Gly Ile Lys
        435   440   445

Gln Ala Met Asn His Phe Val Gln Glu Asn Gly Thr Leu Arg Ala Lys
    450   455   460

Pro Thr Gly Asn Gly Ile Tyr Ile Asn Gly Arg Gly His Leu Val
465   470   475

<210>   36
<211>   314
<212>   PRT
<213>   Homo sapiens

<400>   36

Gly Glu Leu Glu Thr Ser Asp Val Val Thr Val Val Leu Gly Gln Asp
1   5   10   15

Ala Lys Leu Pro Cys Phe Tyr Arg Gly Asp Ser Gly Glu Gln Val Gly
            20   25   30

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Gln Val Ala Trp Ala Arg Val Asp Ala Gly Glu Gly Ala Gln Glu Leu
        35   40   45

Ala Leu Leu His Ser Lys Tyr Gly Leu His Val Ser Pro Ala Tyr Glu
        50   55   60

Gly Arg Val Glu Gln Pro Pro Pro Arg Asn Pro Leu Asp Gly Ser
65   70   75   80

Val Leu Leu Arg Asn Ala Val Gln Ala Asp Glu Gly Glu Tyr Glu Cys
            85   90   95

Arg Val Ser Thr Phe Pro Ala Gly Ser Phe Gln Ala Arg Leu Arg Leu
                100   105   110

Arg Val Leu Val Pro Pro Leu Pro Ser Leu Asn Pro Gly Pro Ala Leu
            115   120   125

Glu Glu Gly Gln Gly Leu Thr Leu Ala Ala Ser Cys Thr Ala Glu Gly
    130   135   140

Ser Pro Ala Pro Ser Val Thr Trp Asp Thr Glu Val Lys Gly Thr Thr
145   150   155   160

Ser Ser Arg Ser Phe Lys His Ser Arg Ser Ala Ala Val Thr Ser Glu
                165   170   175

Phe His Leu Val Pro Ser Arg Ser Met Asn Gly Gln Pro Leu Thr Cys
            180   185   190

Val Val Ser His Pro Gly Leu Leu Gln Asp Gln Arg Ile Thr His Ile
    195   200   205

Leu His Val Ser Phe Leu Ala Glu Ala Ser Val Arg Gly Leu Glu Asp
    210   215   220

Gln Asn Leu Trp His Ile Gly Arg Glu Gly Ala Met Leu Lys Cys Leu
225   230   235   240

Ser Glu Gly Gln Pro Pro Pro Ser Tyr Asn Trp Thr Arg Leu Asp Gly
                245   250   255

Pro Leu Pro Ser Gly Val Arg Val Asp Gly Asp Thr Leu Gly Phe Pro
            260   265   270

Pro Leu Thr Thr Glu His Ser Gly Ile Tyr Val Cys His Val Ser Asn
         275   280   285

Glu Phe Ser Ser Arg Asp Ser Gln Val Thr Val Asp Val Leu Asp Pro
    290   295   300

Gln Glu Asp Ser Gly Lys Gln Val Asp Leu
305   310

<210> 37
<211> 25
<212> PRT
<213> Homo sapiens

<400> 37

Val Ser Ala Ser Val Val Val Val Gly Val Ile Ala Ala Leu Leu Phe
1   5   10   15

Cys Leu Leu Val Val Val Val Val Leu
              20   25

<210> 38
<211> 140
<212> PRT
<213> Homo sapiens

<400> 38

Met Ser Arg Tyr His Arg Arg Lys Ala Gln Gln Met Thr Gln Lys Tyr
1   5   10   15

Glu Glu Glu Leu Thr Leu Thr Arg Glu Asn Ser Ile Arg Arg Leu His
              20   25   30

Ser His His Thr Asp Pro Arg Ser Gln Pro Glu Glu Ser Val Gly Leu
         35   40   45

Arg Ala Glu Gly His Pro Asp Ser Leu Lys Asp Asn Ser Ser Cys Ser
    50   55   60

Val Met Ser Glu Glu Pro Glu Gly Arg Ser Tyr Ser Thr Leu Thr Thr
65   70   75   80

Val Arg Glu Ile Glu Thr Gln Thr Glu Leu Leu Ser Pro Gly Ser Gly
              85   90   95

Arg Ala Glu Glu Glu Glu Asp Gln Asp Glu Gly Ile Lys Gln Ala Met
          100   105   110

Asn His Phe Val Gln Glu Asn Gly Thr Leu Arg Ala Lys Pro Thr Gly
          115   120   125

Asn Gly Ile Tyr Ile Asn Gly Arg Gly His Leu Val
          130   135   140

<210> 39
<211> 0
<212> DNA
<213> Homo sapiens

<400> 39
000   3

<210> 40
<211> 0
<212> DNA
<213> Homo sapiens

<400> 40
000   3

<210> 41
<211> 2510
<212> DNA
<213> Homo sapiens

<400> 41
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tcctggcctg ctccaggacc aaaggatcac ccacatcctc cacgtgtcct tccttgctga   180

ggcctctgtg aggggccttg aagaccaaaa tctgtggcac attggcagag aaggagctat   240

gctcaagtgc ctgagtgaag ggcagccccc tccctcatac aactggacac ggctggatgg   300

gcctctgccc agtggggtac gagtggatgg ggacactttg gctttcccc cactgaccac   360

tgagcacagc ggcatctacg tctgccatgt cagcaatgag ttctcctcaa gggattctca   420

ggtcactgtg gatgttcttg cagaccccca ggaagactct gggaagcagg tggacctagt   480

gtcagcctcg gtggtggtgg tgggtgtgat cgccgcactc ttgttctgcc ttctggtggt   540

ggtggtggtg ctcatgtccc gataccatcg gcgcaaggcc cagcagatga cccagaaata   600

tgaggaggag ctgaccctga ccagggagaa ctccatccgg aggctgcatt cccatcacac   660

ggaccccagg agccagagtg aagagcccga gggccgcagt tactccacgc tgaccacggt   720

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gagggagata gaaacacaga ctgaactgct gtctccaggc tctgggcggg ccgaggagga      780

ggaagatcag gatgaaggca tcaaacaggc catgaaccat tttgttcagg agaatgggac      840

cctacgggcc aagcccacgg gcaatggcat ctacatcaat gggcggggac acctggtctg      900

acccaggcct gcctcccttc cctaggcctg gctccttctg ttgacatggg agattttagc      960

tcatcttggg ggcctcctta aacaccccca tttcttgcgg aagatgctcc ccatcccact     1020

gactgcttga cctttacctc caacccttct gttcatcggg agggctccac caattgagtc     1080

tctcccacca tgcatgcagg tcactgtgtg tgtgcatgtg tgcctgtgtg agtgttgact     1140

gactgtgtgt gtgtggaggg gtgactgtcc gtggaggggt gactgtgtcc gtggtgtgta     1200

ttatgctgtc atatcagagt caagtgaact gtggtgtatg tgccacggga tttgagtggt     1260

tgcgtgggca acactgtcag ggtttggcgt gtgtgtcatg tggctgtgtg tgacctctgc     1320

ctgaaaaagc aggtattttc tcagacccca gagcagtatt aatgatgcag aggttggagg     1380

agagaggtgg agactgtggc tcagacccag gtgtgcgggc atagctggag ctggaatctg     1440

cctccggtgt gagggaacct gtctcctacc acttcggagc catgggggca agtgtgaagc     1500

agccagtccc tgggtcagcc agaggcttga actgttacag aagccctctg ccctctggtg     1560

gcctctgggc ctgctgcatg tacatatttt ctgtaaatat acatgcgccg ggagcttctt     1620

gcaggaatac tgctccgaat cacttttaat tttttctttt tttttttctt gccctttcca     1680

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gttgctcagg ctggccttga actcctgggc tcaagcaatc ctcctgcctc agcctcccta     1800

gtagctggga ctttaagtgt acaccactgt gcctgctttg aatcctttac gaagagaaaa     1860

aaaaaattaa agaaagcctt tagatttatc caatgtttac tactgggatt gcttaaagtg     1920

aggcccctcc aacaccaggg ggttaattcc tgtgattgtg aaagggggcta cttccaaggc     1980

atcttcatgc aggcagcccc ttgggagggc acctgagagc tggtagagtc tgaaattagg     2040

gatgtgagcc tggtgacaag ggctcctgtt caatagtggt gttggggaga gagagagcag     2100

tgattataga ccgagagagt aggagttgag gtgaggtgaa ggaggtgctg ggggtgagaa     2160

tgtcgccttt cccctgggt tttggatcac taattcaagg ctcttctgga tgtttctctg     2220

ggttggggct ggagttcaat gaggtttatt tttagctggc ccacccagat acactcagcc     2280

agaataccta gatttagtac ccaaactctt cttagtctga aatctgctgg atttctggcc     2340

taagggagag gctcccatcc ttcgttcccc agccagccta ggacttcgaa tgtggagcct     2400

gaagatctaa gatcctaaca tgtacatttt atgtaaatat gtgcatattt gtacataaaa     2460
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<210> 42
<211> 897
<212> DNA
<213> Homo sapiens

<400> 42
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ttccacttgg tgcctagccg cagcatgaat gggcagccac tgacttgtgt ggtgtcccat   120

cctggcctgc tccaggacca aaggatcacc cacatcctcc acgtgtcctt ccttgctgag   180

gcctctgtga ggggccttga agaccaaaat ctgtggcaca ttggcagaga aggagctatg   240

ctcaagtgcc tgagtgaagg gcagcccct ccctcataca actggacacg gctggatggg   300

cctctgccca gtggggtacg agtggatggg gacactttgg ctttcccccc actgaccact   360

gagcacagcg gcatctacgt ctgccatgtc agcaatgagt tctcctcaag ggattctcag   420

gtcactgtgg atgttcttgc agaccccag gaagactctg ggaagcaggt ggacctagtg   480

tcagcctcgg tggtggtggt gggtgtgatc gccgcactct tgttctgcct tctggtggtg   540

gtggtggtgc tcatgtcccg ataccatcgg cgcaaggccc agcagatgac ccagaaatat   600

gaggaggagc tgaccctgac cagggagaac tccatccgga ggctgcattc ccatcacacg   660

gaccccagga gccagagtga gagcccgag ggccgcagtt actccacgct gaccacggtg   720

agggagatag aaacacagac tgaactgctg tctccaggct ctgggcgggc cgaggaggag   780

gaagatcagg atgaaggcat caaacaggcc atgaaccatt ttgttcagga gaatgggacc   840

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<210> 43
<211> 299
<212> PRT
<213> Homo sapiens

<400> 43

Lys Gly Thr Thr Ser Ser Arg Ser Phe Lys His Ser Arg Ser Ala Ala
1   5   10   15

Val Thr Ser Glu Phe His Leu Val Pro Ser Arg Ser Met Asn Gly Gln
                20   25   30

Pro Leu Thr Cys Val Val Ser His Pro Gly Leu Leu Gln Asp Gln Arg
            35   40   45

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Ile Thr His Ile Leu His Val Ser Phe Leu Ala Glu Ala Ser Val Arg
    50              55              60

Gly Leu Glu Asp Gln Asn Leu Trp His Ile Gly Arg Glu Gly Ala Met
65              70              75              80

Leu Lys Cys Leu Ser Glu Gly Gln Pro Pro Pro Ser Tyr Asn Trp Thr
                85              90              95

Arg Leu Asp Gly Pro Leu Pro Ser Gly Val Arg Val Asp Gly Asp Thr
            100             105             110

Leu Gly Phe Pro Pro Leu Thr Thr Glu His Ser Gly Ile Tyr Val Cys
        115             120             125

His Val Ser Asn Glu Phe Ser Ser Arg Asp Ser Gln Val Thr Val Asp
    130             135             140

Val Leu Ala Asp Pro Gln Glu Asp Ser Gly Lys Gln Val Asp Leu Val
145             150             155             160

Ser Ala Ser Val Val Val Val Gly Val Ile Ala Ala Leu Leu Phe Cys
            165             170             175

Leu Leu Val Val Val Val Val Leu Met Ser Arg Tyr His Arg Arg Lys
            180             185             190

Ala Gln Gln Met Thr Gln Lys Tyr Glu Glu Glu Leu Thr Leu Thr Arg
        195             200             205

Glu Asn Ser Ile Arg Arg Leu His Ser His His Thr Asp Pro Arg Ser
210             215             220

Gln Ser Glu Glu Pro Glu Gly Arg Ser Tyr Ser Thr Leu Thr Thr Val
225             230             235             240

Arg Glu Ile Glu Thr Gln Thr Glu Leu Leu Ser Pro Gly Ser Gly Arg
            245             250             255

Ala Glu Glu Glu Glu Asp Gln Asp Glu Gly Ile Lys Gln Ala Met Asn
            260             265             270

His Phe Val Gln Glu Asn Gly Thr Leu Arg Ala Lys Pro Thr Gly Asn
    275             280             285
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Gly Ile Tyr Ile Asn Gly Arg Gly His Leu Val
    290   295

<210>   44
<211>   0
<212>   DNA
<213>   Homo sapiens

<400>   44
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<210>   45
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000   3

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000   3

<210> 50
<211> 0
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<213> Homo sapiens

<400> 50
000   3

<210> 51
<211> 3114
<212> DNA
<213> Homo sapiens

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tcctggacct tctcaacaca gggagcctgc ataatgatgc aagagcagca acctcaaagt   180

acagagaaaa gaggctggtt gtccctgaga ctctggtctg tggctgggat ttccattgca   240

ctcctcagtg cttgcttcat tgtgagctgt gtagtaactt accattttac atatggtgaa   300

actggcaaaa ggctgtctga actacactca tatcattcaa gtctcacctg cttcagtgaa   360

gggacaaagg tgccagcctg gggatgttgc ccagcttctt ggaagtcatt tggttccagt   420

tgctacttca tttccagtga agagaaggtt tggtctaaga gtgagcagaa ctgtgttgag   480

atgggagcac atttggttgt gttcaacaca gaagcagagc agaatttcat tgtccagcag   540

ctgaatgagt cattttctta ttttctgggg ctttcagacc cacaaggtaa taataattgg   600

caatggattg ataagacacc ttatgagaaa aatgtcagat tttggcacct aggtgagccc   660

aatcattctg cagagcaatg tgcttcaata gtcttctgga acctacagg atggggctgg   720

aatgatgtta tctgtgaaac tagaaggaat tcaatatgtg agatgaataa gatttaccta   780

tgagtagaag cttaattgga aagaagagaa gaattactga cgtaattttt tccctgacgt   840

ctttaaaatt gaaccctatc atgaaatgat aatttcttcc tgaatttaca cataatcctt   900

atgttataga ggttcacaga aatggaaaga tacctgtttc cctttaatca atcttctcgt   960

ttcctctttt ccattaatga tagaatgcac ccttcctctc tttgttccat tctttcactt   1020

gttattcatt tttttctttc ttcacacttc attacacaaa tatttattgt ttcagagact   1080

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ctgaaggcct gacaagagtt gaaagacatg ttttctagat ggctcactca catggctggc   1260

aacttggtgt tggctattaa tgtaacctgg aaataaattt tattctgcag ttagggattt   1320

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ggcattttat atatgttgat tcaatcaagt ttggcaagca gggtgttcga tactgctata   1380

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gcctatattg attgatactc agaagaatct ggcagtagga gcctataaag ggataagcaa   1920

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gttaaaaatt taatccattt acatttgtga caattcgaca tatatatggt tctaaatcta   2460

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cacaactttt attagaaaag ttatacataa cacagcatca actattttca agaacccaat   2580

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aaacattcaa ttatctacaa tgtctatttta caaacaggga aaactccatg gtttacaggc   2700

atgtcatatt gaaaataaag ctgcaatagc tttttataca attatcgctc tcaagaaaat   2760

gaatcattaa gacagtaatt aggagttcac aaatttaaaa catttcacgt aattttaaat   2820

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tattctgaga atcataatag tcacatgatt tctgatgcta tctgctctgt taataacaaa   3000

gatttcacac atgaatacct atgtaacaaa tctccatgtt ctacacatat accccagaac   3060

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<210> 52
<211> 627
<212> DNA
<213> Homo sapiens

<400> 52
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gtaacttacc attttacata tggtgaaact ggcaaaaggc tgtctgaact acactcatat   180

cattcaagtc tcacctgctt cagtgaaggg acaaaggtgc cagcctgggg atgttgccca   240

gcttcttgga agtcatttgg ttccagttgc tacttcattt ccagtgaaga gaaggtttgg   300

tctaagagtg agcagaactg tgttgagatg ggagcacatt ggttgtgtt caacacagaa   360

gcagagcaga atttcattgt ccagcagctg aatgagtcat tttcttattt tctggggctt   420

tcagacccac aaggtaataa taattggcaa tggattgata agacacctta tgagaaaaat   480

gtcagatttt ggcacctagg tgagcccaat cattctgcag agcaatgtgc ttcaatagtc   540

ttctggaaac ctacaggatg gggctggaat gatgttatct gtgaaactag aaggaattca   600

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<210> 53
<211> 209
<212> PRT
<213> Homo sapiens

<400> 53

Met Met Gln Glu Gln Gln Pro Gln Ser Thr Glu Lys Arg Gly Trp Leu
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Ser Leu Arg Leu Trp Ser Val Ala Gly Ile Ser Ile Ala Leu Leu Ser
            20   25   30

Ala Cys Phe Ile Val Ser Cys Val Val Thr Tyr His Phe Thr Tyr Gly
            35   40   45

Glu Thr Gly Lys Arg Leu Ser Glu Leu His Ser Tyr His Ser Ser Leu
        50   55   60

Thr Cys Phe Ser Glu Gly Thr Lys Val Pro Ala Trp Gly Cys Cys Pro
65   70   75   80

Ala Ser Trp Lys Ser Phe Gly Ser Ser Cys Tyr Phe Ile Ser Ser Glu

Glu Lys Val Trp Ser Lys Ser Glu Gln Asn Cys Val Glu Met Gly Ala
            100   105   110

His Leu Val Val Phe Asn Thr Glu Ala Glu Gln Asn Phe Ile Val Gln
        115   120   125

Gln Leu Asn Glu Ser Phe Ser Tyr Phe Leu Gly Leu Ser Asp Pro Gln
    130   135   140

Gly Asn Asn Asn Trp Gln Trp Ile Asp Lys Thr Pro Tyr Glu Lys Asn
145   150   155   160

Val Arg Phe Trp His Leu Gly Glu Pro Asn His Ser Ala Glu Gln Cys
            165   170   175

Ala Ser Ile Val Phe Trp Lys Pro Thr Gly Trp Gly Trp Asn Asp Val
            180   185   190

Ile Cys Glu Thr Arg Arg Asn Ser Ile Cys Glu Met Asn Lys Ile Tyr
            195   200   205

Leu

<210> 54
<211> 48
<212> PRT
<213> Homo sapiens

<400> 54

Met Met Gln Glu Gln Gln Pro Gln Ser Thr Glu Lys Arg Gly Trp Leu
1   5   10   15

Ser Leu Arg Leu Trp Ser Val Ala Gly Ile Ser Ile Ala Leu Leu Ser
            20   25   30

Ala Cys Phe Ile Val Ser Cys Val Val Thr Tyr His Phe Thr Tyr Gly
        35   40   45

<210> 55
<211> 161
<212> PRT
<213> Homo sapiens

<400> 55

Glu Thr Gly Lys Arg Leu Ser Glu Leu His Ser Tyr His Ser Ser Leu
1   5   10   15

Thr Cys Phe Ser Glu Gly Thr Lys Val Pro Ala Trp Gly Cys Cys Pro
            20   25   30

Ala Ser Trp Lys Ser Phe Gly Ser Ser Cys Tyr Phe Ile Ser Ser Glu
            35   40   45

Glu Lys Val Trp Ser Lys Ser Glu Gln Asn Cys Val Glu Met Gly Ala
        50   55   60

His Leu Val Val Phe Asn Thr Glu Ala Glu Gln Asn Phe Ile Val Gln
65   .   70   75   80

Gln Leu Asn Glu Ser Phe Ser Tyr Phe Leu Gly Leu Ser Asp Pro Gln
                85   90   95

Gly Asn Asn Asn Trp Gln Trp Ile Asp Lys Thr Pro Tyr Glu Lys Asn
                100   105   110

Val Arg Phe Trp His Leu Gly Glu Pro Asn His Ser Ala Glu Gln Cys
        115   120   125

Ala Ser Ile Val Phe Trp Lys Pro Thr Gly Trp Gly Trp Asn Asp Val
        130   135   140

Ile Cys Glu Thr Arg Arg Asn Ser Ile Cys Glu Met Asn Lys Ile Tyr
145   150   155   160

Leu

<210> 56
<211> 0
<212> DNA
<213> Homo sapiens

<400> 56
000   3

<210> 57
<211> 0
<212> DNA
<213> Homo sapiens

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<400> 57
000

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<210> 58
<211> 0
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<400> 58
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<210> 59
<211> 0
<212> DNA
<213> Homo sapiens

<400> 59
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<210> 60
<211> 209
<212> PRT
<213> Mus sp.

<400> 60

Met Val Gln Glu Arg Gln Ser Gln Gly Lys Gly Val Cys Trp Thr Leu
1   5   10   15

Arg Leu Trp Ser Ala Ala Val Ile Ser Met Leu Leu Leu Ser Thr Cys
            20   25   30

Phe Ile Ala Ser Cys Val Val Thr Tyr Gln Phe Ile Met Asp Gln Pro
            35   40   45

Ser Arg Arg Leu Tyr Glu Leu His Thr Tyr His Ser Ser Leu Thr Cys
        50   55   60

Phe Ser Glu Gly Thr Met Val Ser Glu Lys Met Trp Gly Cys Cys Pro
65   70   75   80

Asn His Trp Lys Ser Phe Gly Ser Ser Cys Tyr Leu Ile Ser Thr Lys
                85   90   95

Glu Asn Phe Trp Ser Thr Ser Glu Gln Asn Cys Val Gln Met Gly Ala
                100   105   110

His Leu Val Val Ile Asn Thr Glu Ala Glu Gln Asn Phe Ile Thr Gln

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Gln Leu Asn Glu Ser Leu Ser Tyr Phe Leu Gly Leu Ser Asp Pro Gln
    130   135   140

Gly Asn Gly Lys Trp Gln Trp Ile Asp Asp Thr Pro Phe Ser Gln Asn
145   150   155   160

Val Arg Phe Trp His Pro His Glu Pro Asn Leu Pro Glu Glu Arg Cys
                165   170   175

Val Ser Ile Val Tyr Trp Asn Pro Ser Lys Trp Gly Trp Asn Asp Val
                180   185   190

Phe Cys Asp Ser Lys His Asn Ser Ile Cys Glu Met Lys Lys Ile Tyr
        195   200   205

Leu

<210> 61
<211> 821
<212> DNA
<213> Mus sp.

<220>
<221> misc_feature
<222> (788)..(788)
<223> unsure

<400> 61
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gtgtgtggaa gttgattctg aactctggcc tctttgacag aagccaggtc cctgagtcgt   120

attttggaga cagatgcaag aaacccctga ccttctgaac atacacctca acaatggtgc   180

aggaaagaca atcccaaggg aagggagtct gctggaccct gagactctgg tcagctgctg   240

tgatttccat gttactcttg agtacctgtt tcattgcgag ctgtgtggtg acttaccaat   300

ttattatgga ccagcccagt agaagactat atgaacttca cataccat tccagtctca   360

cctgcttcag tgaagggact atggtgtcag aaaaaatgtg gggatgctgc ccaaatcact   420

ggaagtcatt tggctccagc tgctacctca tttctaccaa ggagaacttc tggagcacca   480

gtgagcagaa ctgtgttcag atgggggctc atctggtggt gatcaatact gaagcggagc   540

agaatttcat cacccagcag ctgaatgagt cactttctta cttcctgggt ctttcggatc   600

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ccaaggtaat ggcaaatggc aatggatcga tgatactcct ttcagtcaaa atgtcaggtt      660

ctggcacccc catgaaccca atcttccaga gagcggtgt gtttcaatag tttactggaa       720

tccttcgaaa tggggctggg aatgatgttt tctgtgatag taaacacaat tcaatatgtg      780

aaatgaanaa gattacctat gaatgcctgt tattcttaat a                         821
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<210>  62
<211>  534
<212>  DNA
<213>  Mus sp.
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<400>  62
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gctgctgtga tttccatgtt actcttgagt acctgtttca ttgcgagctg tgtggtgact      120

taccaattta ttatggacca gcccagtaga agactatatg aacttcacac ataccattcc      180

agtctcacct gcttcagtga agggactatg gtgtcagaaa aaatgtgggg atgctgccca      240

aatcactgga agtcatttgg ctccagctgc tacctcattt ctaccaagga gaacttctgg      300

agcaccagtg agcagaactg tgttcagatg ggggctcatc tggtggtgat caatactgaa      360

gcggagcaga atttcatcac ccagcagctg aatgagtcac tttcttactt cctgggtctt      420

tcggatccca aggtaatggc aaatggcaat ggatcgatga tactcctttc agtcaaaatg      480

tcaggttctg gcacccccat gaacccaatc ttccagaaga gcggtgtgtt tcaa            534
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<210>  63
<211>  178
<212>  PRT
<213>  Mus sp.
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<400>  63
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Met Val Gln Glu Arg Gln Ser Gln Gly Lys Gly Val Cys Trp Thr Leu
1               5                   10                  15


Arg Leu Trp Ser Ala Ala Val Ile Ser Met Leu Leu Leu Ser Thr Cys
                20                  25                  30


Phe Ile Ala Ser Cys Val Val Thr Tyr Gln Phe Ile Met Asp Gln Pro
                35                  40                  45


Ser Arg Arg Leu Tyr Glu Leu His Thr Tyr His Ser Ser Leu Thr Cys
            50                  55                  60


Phe Ser Glu Gly Thr Met Val Ser Glu Lys Met Trp Gly Cys Cys Pro
65                  70                  75                  80
```

Asn His Trp Lys Ser Phe Gly Ser Ser Cys Tyr Leu Ile Ser Thr Lys
                85   90   95

Glu Asn Phe Trp Ser Thr Ser Glu Gln Asn Cys Val Gln Met Gly Ala
            100   105   110

His Leu Val Val Ile Asn Thr Glu Ala Glu Gln Asn Phe Ile Thr Gln
        115   120   125

Gln Leu Asn Glu Ser Leu Ser Tyr Phe Leu Gly Leu Ser Asp Pro Lys
    130   135   140

Val Met Ala Asn Gly Asn Gly Ser Met Ile Leu Leu Ser Val Lys Met
145   150   155   160

Ser Gly Ser Gly Thr Pro Met Asn Pro Ile Phe Gln Lys Ser Gly Val
            165   170   175

Phe Gln

<210> 64
<211> 48
<212> PRT
<213> Mus sp.

<400> 64

Met Val Gln Glu Arg Gln Ser Gln Gly Lys Gly Val Cys Trp Thr Leu
1   5   10   15

Arg Leu Trp Ser Ala Ala Val Ile Ser Met Leu Leu Leu Ser Thr Cys
            20   25   30

Phe Ile Ala Ser Cys Val Val Thr Tyr Gln Phe Ile Met Asp Gln Pro
        35   40   45

<210> 65
<211> 130
<212> PRT
<213> Mus sp.

<400> 65

Ser Arg Arg Leu Tyr Glu Leu His Thr Tyr His Ser Ser Leu Thr Cys
1   5   10   15

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Phe Ser Glu Gly Thr Met Val Ser Glu Lys Met Trp Gly Cys Cys Pro
        20   25   30

Asn His Trp Lys Ser Phe Gly Ser Ser Cys Tyr Leu Ile Ser Thr Lys
        35   40   45

Glu Asn Phe Trp Ser Thr Ser Glu Gln Asn Cys Val Gln Met Gly Ala
        50   55   60

His Leu Val Val Ile Asn Thr Glu Ala Glu Gln Asn Phe Ile Thr Gln
65   70   75   80

Gln Leu Asn Glu Ser Leu Ser Tyr Phe Leu Gly Leu Ser Asp Pro Lys
                85   90   95

Val Met Ala Asn Gly Asn Gly Ser Met Ile Leu Leu Ser Val Lys Met
                100   105   110

Ser Gly Ser Gly Thr Pro Met Asn Pro Ile Phe Gln Lys Ser Gly Val
                115   120   125

Phe Gln
    130

<210>   66
<211>   0
<212>   DNA
<213>   Mus sp.

<400>   66
000   3

<210>   67
<211>   0
<212>   DNA
<213>   Mus sp.

<400>   67
000   3

<210>   68
<211>   0
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<213>   Mus sp.

<400>   68
000   3

<210> 69
<211> 0
<212> DNA
<213> Mus sp.

<400> 69
000   3

<210> 70
<211> 0
<212> DNA
<213> Mus sp.

<400> 70
000   3

<210> 71
<211> 1252
<212> DNA
<213> Mus sp.

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caagtgtgtg tggaagttga ttctgaactc tggcctcttt gacagaagcc aggtccctga   120

gtcgtatttt ggagacagat gcaagaaacc cctgaccttc tgaacataca cctcaacaat   180

ggtgcaggaa agacaatccc aagggaaggg agtctgctgg accctgagac tctggtcagc   240

tgctgtgatt tccatgttac tcttgagtac ctgtttcatt gcgagctgtg tggtgactta   300

ccaatttatt atggaccagc ccagtagaag actatatgaa cttcacacat accattccag   360

tctcacctgc ttcagtgaag ggactatggt gtcagaaaaa atgtggggat gctgcccaaa   420

tcactggaag tcatttggct ccagctgcta cctcatttct accaaggaga acttctggag   480

caccagtgag cagaactgtg ttcagatggg ggctcatctg gtggtgatca atactgaagc   540

ggagcagaat ttcatcaccc agcagctgaa tgagtcactt tcttacttcc tgggtctttc   600

ggatccacaa ggtaatggca aatggcaatg gatcgatgat actcctttca gtcaaaatgt   660

caggttctgg cacccccatg aacccaatct tccagaagag cggtgtgttt caatagttta   720

ctggaatcct tcgaaatggg gctggaatga tgttttctgt gatagtaaac acaattcaat   780

atgtgaaatg aagaagattt acctatgagt gcctgttatt cattaatatc tttaaagttc   840

agacctacca agaagccata acttcttggc ctgtacatct gacagaggcc gttctttttcc   900

tagccactat tctttactca aacagaatga gccctttctc cttctgatgg ttagagtttt   960

gtcaacttga cacaaactag agtcacctgg ggagtaggat cttcagctaa ggaattgcct   1020

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ctgtcagctt gaccagtcag catgtctggg ggcattttct tgattaatga ttgttgtaag   1080

agggtccagg tggtaagcaa aggtgttaaa cccatgaaga gcaagccagg gagcatcatc   1140

catccatctc tgccctcagg tttctgcccc agggtcttgc cctggtttct ttctatgaac   1200

tgctgttact tgaaagtata agatgaataa acaatttcat ccaaaaaaaa aa           1252
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<210>   72
<211>   627
<212>   DNA
<213>   Mus sp.
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<400>   72
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gctgctgtga tttccatgtt actcttgagt acctgtttca ttgcgagctg tgtggtgact   120

taccaattta ttatggacca gcccagtaga agactatatg aacttcacac ataccattcc   180

agtctcacct gcttcagtga agggactatg gtgtcagaaa aaatgtgggg atgctgccca   240

aatcactgga agtcatttgg ctccagctgc tacctcattt ctaccaagga gaacttctgg   300

agcaccagtg agcagaactg tgttcagatg ggggctcatc tggtggtgat caatactgaa   360

gcggagcaga atttcatcac ccagcagctg aatgagtcac tttcttactt cctgggtctt   420

tcggatccac aaggtaatgg caaatggcaa tggatcgatg atactccttt cagtcaaaat   480

gtcaggttct ggcaccccca tgaacccaat cttccagaag agcggtgtgt ttcaatagtt   540

tactggaatc cttcgaaatg gggctggaat gatgttttct gtgatagtaa acacaattca   600

atatgtgaaa tgaagaagat ttaccta                                       627
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<210>   73
<211>   586
<212>   PRT
<213>   Mus sp.
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<400>   73
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Met Glu Thr Val Ala Leu Gly Leu Asn Gly Leu Ala Arg Gly Gly Leu
1   5   10   15

Asn Ser Glu Arg Gly Leu Asn Gly Leu Tyr Leu Tyr Ser Gly Leu Tyr
                20   25   30

Val Ala Leu Cys Tyr Ser Thr Arg Pro Thr His Arg Leu Glu Ala Arg
            35   40   45

Gly Leu Glu Thr Arg Pro Ser Glu Arg Ala Leu Ala Ala Leu Ala Val
        50   55   60

Ala Leu Ile Leu Glu Ser Glu Arg Met Glu Thr Leu Glu Leu Glu Leu
65   70   75   80

Glu Ser Glu Arg Thr His Arg Cys Tyr Ser Pro His Glu Ile Leu Glu
                85   90   95

Ala Leu Ala Ser Glu Arg Cys Tyr Ser Val Ala Leu Val Ala Leu Thr
            100   105   110

His Arg Thr Tyr Arg Gly Leu Asn Pro His Glu Ile Leu Glu Met Glu
            115   120   125

Thr Ala Ser Pro Gly Leu Asn Pro Arg Ser Glu Arg Ala Arg Gly Ala
        130   135   140

Arg Gly Leu Glu Thr Tyr Arg Gly Leu Leu Glu His Ile Ser Thr His
145   150   155   160

Arg Thr Tyr Arg His Ile Ser Ser Glu Arg Ser Glu Arg Leu Glu Thr
                165   170   175

His Arg Cys Tyr Ser Pro His Glu Ser Glu Arg Gly Leu Gly Leu Tyr
            180   185   190

Thr His Arg Met Glu Thr Val Ala Leu Ser Glu Arg Gly Leu Leu Tyr
            195   200   205

Ser Met Glu Thr Thr Arg Pro Gly Leu Tyr Cys Tyr Ser Cys Tyr Ser
        210   215   220

Pro Arg Ala Ser Asn His Ile Ser Thr Arg Pro Leu Tyr Ser Ser Glu
225   230   235   240

Arg Pro His Glu Gly Leu Tyr Ser Glu Arg Ser Glu Arg Cys Tyr Ser
                245   250   255

Thr Tyr Arg Leu Glu Ile Leu Glu Ser Glu Arg Thr His Arg Leu Tyr
`   260   265   270

Ser Gly Leu Ala Ser Asn Pro His Glu Thr Arg Pro Ser Glu Arg Thr
            275   280   285

His Arg Ser Glu Arg Gly Leu Gly Leu Asn Ala Ser Asn Cys Tyr Ser

- 60 -

Val Ala Leu Gly Leu Asn Met Glu Thr Gly Leu Tyr Ala Leu Ala His
305   310   315   320

Ile Ser Leu Glu Val Ala Leu Val Ala Leu Ile Leu Glu Ala Ser Asn
              325   330   335

Thr His Arg Gly Leu Ala Leu Ala Gly Leu Gly Leu Asn Ala Ser Asn
          340   345   350

Pro His Glu Ile Leu Glu Thr His Arg Gly Leu Asn Gly Leu Asn Leu
          355   360   365

Glu Ala Ser Asn Gly Leu Ser Glu Arg Leu Glu Ser Glu Arg Thr Tyr
      370   375   380

Arg Pro His Glu Leu Glu Gly Leu Tyr Leu Glu Ser Glu Arg Ala Ser
385   390   395   400

Pro Pro Arg Gly Leu Asn Gly Leu Tyr Ala Ser Asn Gly Leu Tyr Leu
          405   410   415

Tyr Ser Thr Arg Pro Gly Leu Asn Thr Arg Pro Ile Leu Glu Ala Ser
          420   425   430

Pro Ala Ser Pro Thr His Arg Pro Arg Pro His Glu Ser Glu Arg Gly
      435   440   445

Leu Asn Ala Ser Asn Val Ala Leu Ala Arg Gly Pro His Glu Thr Arg
      450   455   460

Pro His Ile Ser Pro Arg His Ile Ser Gly Leu Pro Arg Ala Ser Asn
465   470   475   480

Leu Glu Pro Arg Gly Leu Gly Leu Ala Arg Gly Cys Tyr Ser Val Ala
              485   490   495

Leu Ser Glu Arg Ile Leu Glu Val Ala Leu Thr Tyr Arg Trp Ala Ser
          500   505   510

Asn Pro Arg Ser Glu Arg Leu Tyr Ser Thr Arg Pro Gly Leu Tyr Thr
          515   520   525

```
Arg Pro Ala Ser Asn Ala Ser Pro Val Ala Leu Phe Cys Tyr Ser Ala
    530                 535                 540


Ser Pro Ser Glu Arg Leu Tyr Ser His Ile Ser Ala Ser Asn Ser Glu
545                 550                 555                 560


Arg Ile Leu Glu Cys Tyr Ser Gly Leu Met Glu Thr Leu Tyr Ser Leu
                565                 570                 575


Tyr Ser Ile Leu Glu Thr Tyr Arg Leu Glu
            580                 585
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<210>   74
<211>   0
<212>   DNA
<213>   Mus sp.

<400>   74
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<210>   75
<211>   0
<212>   DNA
<213>   Mus sp.

<400>   75
000                                                                    3


<210>   76
<211>   0
<212>   DNA
<213>   Mus sp.

<400>   76
000                                                                    3


<210>   77
<211>   0
<212>   DNA
<213>   Mus sp.

<400>   77
000                                                                    3


<210>   78
<211>   0
<212>   DNA
<213>   Mus sp.

<400>   78
000                                                                    3
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<210> 79
<211> 0
<212> DNA
<213> Mus sp.

<400> 79
000   3

<210> 80
<211> 0
<212> DNA
<213> Mus sp.

<400> 80
000   3

<210> 81
<211> 1202
<212> DNA
<213> Homo sapiens

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cataaagtgt tctgagtttg taatcagata ttgtcacact ggttccttca aacagacatg   120

acaaggagct ggctttgggc taggctgctc cttgcctatg attggggaag gttaaacccc   180

tacagggctt atgtatgtgg aaactgttgg aacactgatt aaatgggatg gacttcactt   240

aacactcttg gatttccaat attatgtttg agtaaaagaa ctgctatcca caaacaccat   300

taatccttta gggaggcaga aaaggccaga atgcaaagcc atcttttcat tacactaggg   360

tctgtctttt tacttctctg ggcctttatc tggggagggc atgtttcccc cacttggaac   420

agtgagcctg gccaggacag taacctgtgg gcttgtgatg acattatttc taatagggaa   480

tgggaaagga tgttagcttc tcaggtttta aagtgtcctg gaggagaaga gaaaggacga   540

catgagaagg agacaatgaa gaagatgggt gaggggagta gtgtaaga ccctgagaat   600

ggcatagggt aaaactggga cagagatact gtgggagaac gatagctgca gagggacaga   660

gggaggaagg aaggagaaga gagggagata aaaacagttt ggagaaactc tcacaataca   720

ttcataagaa gacaaagaac ccaataaaaa tgggcaacag ataccacaga agatgatata   780

ttgagtggcc aataaataca taaaaatatg ctcaacatct ataattacca gggaaatgca   840

aattaaaagc actgtgagat accactacac actgatgaga atggctaaaa tcaaaaaaga   900

ccaaccagca ctttgggagg ccgaggtggg cggatcatga ggtcaggagt ttgagactag   960

cctgaccaac atggtgaaac cctgtctcta ctaaacatac aaaaattagc tgggggtggt   1020

- 63 -

ggcatgcgcc tgtaattcca gctactcagg aggctgaggc aggagaatcg cttgaaccca   1080

ggaggcagag attacagtga gccgagatca tgcccttgca ctctagcctg ggtgacagag   1140

cgagactctg tcttaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aagggcggcc   1200

gc   1202

<210> 82
<211> 255
<212> DNA
<213> Homo sapiens

<400> 82
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tggggagggc atgtttcccc cacttggaac agtgagcctg ccaggacag taacctgtgg   120

gcttgtgatg acattatttc taatagggaa tgggaaagga tgttagcttc tcaggtttta   180

aagtgtcctg gaggagaaga gaaaggacga catgagaagg agacaatgaa gaagatgggt   240

gagggggaga tagtg   255

<210> 83
<211> 85
<212> PRT
<213> Homo sapiens

<400> 83

Met Gln Ser His Leu Phe Ile Thr Leu Gly Ser Val Phe Leu Leu Leu
1   5   10   15

Trp Ala Phe Ile Trp Gly Gly His Val Ser Pro Thr Trp Asn Ser Glu
            20   25   30

Pro Gly Gln Asp Ser Asn Leu Trp Ala Cys Asp Asp Ile Ile Ser Asn
        35   40   45

Arg Glu Trp Glu Arg Met Leu Ala Ser Gln Val Leu Lys Cys Pro Gly
    50   55   60

Gly Glu Glu Lys Gly Arg His Glu Lys Glu Thr Met Lys Lys Met Gly
65   70   75   80

Glu Gly Glu Ile Val
                85

<210> 84

- 64 -

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<211>   23
<212>   PRT
<213>   Homo sapiens

<400>   84

Met Gln Ser His Leu Phe Ile Thr Leu Gly Ser Val Phe Leu Leu Leu
1               5                   10                  15


Trp Ala Phe Ile Trp Gly Gly
            20


<210>   85
<211>   62
<212>   PRT
<213>   Homo sapiens

<400>   85

His Val Ser Pro Thr Trp Asn Ser Glu Pro Gly Gln Asp Ser Asn Leu
1               5                   10                  15


Trp Ala Cys Asp Asp Ile Ile Ser Asn Arg Glu Trp Glu Arg Met Leu
            20                  25                  30


Ala Ser Gln Val Leu Lys Cys Pro Gly Gly Glu Glu Lys Gly Arg His
            35                  40                  45


Glu Lys Glu Thr Met Lys Lys Met Gly Glu Gly Glu Ile Val
    50                  55                  60
```